

## ABSTRACT

An illumination optical apparatus successfully realizes mutually different illumination conditions in orthogonal two directions on an illumination objective plane. A magnification-varying optical system for similarly changing the entire size of a secondary multiple light source is arranged in an optical path between a first optical integrator for forming a first multiple light source on the basis of a light beam from a light source and a second optical integrator for forming the second multiple light source having light sources of a larger number on the basis of a light beam from the first multiple light source. The apparatus further comprises an aspect ratio-changing element for changing the aspect ratio of the incoming light beam in order to change the angle of incidence of the incoming light beam into the first optical integrator in a predetermined direction.